

Name: _____

pa1106: Factoring with box when $a = \text{prime}$ (v9)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 44x + 45$.

*	x	
7x	$7x^2$	$35x$
9	$9x$	45

ANSWER: $(7x + 9)(x + 5)$

Question 2

Use the box to factor $3x^2 - 8x - 35$.

*	x	-5
3x	$3x^2$	-15x
7	7x	-35

ANSWER: $(3x + 7)(x - 5)$

Question 3

Use the box to factor $5x^2 - 21x + 18$.

*	x	-3
5x	$5x^2$	-15x
-6	-6x	18

ANSWER: $(5x - 6)(x - 3)$